



# **PRAVARA INSTITUTE OF MEDICAL SCIENCES**

## **(DEEMED TO BE UNIVERSITY)**

**Loni, Tal. Rahata, Dist. Ahmednagar 413736**  
**NAAC Re-accredited with 'A' Grade**

## **SYLLABUS**

### **PG Programme- MD (PAEDIATRICS)**

**(As per MCI Regulations Governing PG Programme 2000 Amended up to May, 2018)**

#### ***I. PREAMBLE***

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training.

A post graduate student after undergoing the required training should be able to deal effectively with the needs of the community and should be competent to handle the problems related to his specialty including recent advances. S/He should also acquire skills in teaching of medical/Para-medical students.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment. This document was prepared by various subject-content specialists. The Reconciliation Board of the Academic Committee has attempted to render uniformity without compromise to purpose and content of the document. Compromise in purity of syntax has been made in order to preserve the purpose and content. This has necessitated retention of “domains of learning” under the heading “competencies”.

#### ***II. SUBJECT SPECIFIC OBJECTIVES***

The objectives of MD Course in Paediatrics are to produce a competent pediatrician who:

- Recognizes the health needs of infants, children and adolescents and carries out professional obligations in keeping with principles of the National Health Policy and professional ethics
- Has acquired the competencies pertaining to Paediatrics that are required to be practiced in the community and at all levels of health system
- Has acquired skills in effectively communicating with the child, family and the community
- Is aware of contemporary advances and developments in medical sciences as related to child health
- Is oriented to principles of research methodology
- Has acquired skills in educating medical and paramedical professionals
- Is able to recognize mental conditions and collaborate with Psychiatrists/Child Psychologists for the treatment of such patients

### **III. SUBJECT SPECIFIC COMPETENCIES**

#### **A. Cognitive domain**

At the end of the MD course in Paediatrics, the students should be able to:

1. Recognize the key importance of child health in the context of the health priority of country
2. Practice the specialty of Paediatrics in keeping with the principles of professional ethics
3. Identify social, economic, environmental, biological and emotional determinants of child and adolescent health, and institute diagnostic, therapeutic, rehabilitative, preventive and promotive measures to provide holistic care to children
4. Recognize the importance of growth and development as the foundation of Paediatrics and help each child realize her/his optimal potential in this regard
5. Take detailed history; perform full physical examination including neuro-development and behavioral assessment and anthropometric measurements in the child and make clinical diagnosis
6. Perform relevant investigative and therapeutic procedures for the paediatric patient
7. Interpret important imaging and laboratory results
8. Diagnose illness based on the analysis of history, physical examination and investigations
9. Plan and deliver comprehensive treatment for illness using principles of rational drug therapy
10. Plan and advice measures for the prevention of childhood disease and disability
11. Plan rehabilitation of children with chronic illness and handicap and those with special needs
12. Manage childhood emergencies efficiently
13. Provide comprehensive care to normal, 'at risk' and sick neonates
14. Demonstrate skills in documentation of case details, and of morbidity and mortality data relevant to the assigned situation
15. Recognize the emotional and behavioral characteristics of children, and keep these fundamental attributes in focus while dealing with them
16. Demonstrate empathy and humane approach towards patients and their families and keep their sensibilities in high esteem
17. Demonstrate communication skills of a high order in explaining management and prognosis, providing counseling and giving health education messages to patients, families and communities
18. Develop skills as a self-directed learner. Recognize continuing educational needs; use appropriate learning resources and critically analyze published literature in order to practice evidence-based Paediatrics
19. Demonstrate competence in basic concepts of research methodology and epidemiology
20. Facilitate learning of medical/nursing students, practicing physicians, paramedical health workers and other providers as a teacher-trainer
21. Implement National Health Programs, effectively and responsibly
22. Organize and supervise the desired managerial and leadership skills
23. Function as a productive member of a team engaged in health care, research and education.

24. Recognize mental conditions, characterized by self absorption, reduced ability to respond, abnormal functioning in social interaction with or without repetitive behavior, poor communication (autism) and collaborate with Psychiatrists/Child Psychologists for the treatment of such patients.

All PG students joining the course should have an orientation session to acquaint them with the requirements and other details. A plan for orientation session has been given at Annexure 1.

#### **B. Affective Domain:**

1. Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

#### **C. Psychomotor domain**

**At the end of the course, the student should have acquired following skills:**

##### **I. History and Examination**

The student must gain proficiency in eliciting, processing and systemically presenting Paediatrics history and examination with due emphasis of the important and minimization of less important facts. The following skills must be achieved:

- i) Recognition and demonstration of physical findings
- ii) Recording of height, weight, head circumference and mid arm circumference and interpretation of these parameters using growth reference standard assessment of nutritional status and growth
- iii) Assessment of pubertal growth
- iv) Complete development assessment by history and physical examination, and recognizing developmental disabilities, including autism
- v) Systematic examination
- vi) Neonatal examination including gestation assessment by physical neurological criteria
- vii) Examination of the fundus and the ear-drum
- viii) Skills related to IMNCI and IYCF

##### **II. Monitoring Skills**

Non-invasive monitoring of blood pressure, pulse and respiratory rates, saturation; ECG

**III. Investigative Procedures**

- i) Venous, capillary and arterial blood sampling using appropriate precautions
- ii) Pleural, peritoneal, pericardial aspiration; subdural, ventricular and lumbar puncture
- iii) Tuberculin test
- iv) Biopsy of liver and kidney
- v) Urethral catheterization and suprapubic tap
- vi) Gastric content aspiration

**IV. Therapeutic Skills**

- i) Breast feeding assessment and counseling; management of common problems
- ii) Establishment of central and peripheral vascular access; CVP monitoring
- iii) Administration of injections using safe injection practices
- iv) Determination of volume and composition of intravenous fluids and their administration
- v) Neonatal and Pediatric basic and advanced life support
- vi) Oxygen administration, CPAP and nebulization therapy
- vii) Blood and blood component therapy
- viii) Intraosseous fluid administration
- ix) Phototherapy, umbilical artery and venous catheterization and exchange transfusion
- x) Nasogastric feeding
- xi) Common dressings and abscess drainage; intercostal tube insertion
- xii) Basic principles of rehabilitation
- xiii) Peritoneal dialysis
- xiv) Mechanical ventilation

**V. Bed side investigations, including**

- i) Complete blood counts, micro ESR, peripheral smear
- ii) Urinalysis
- iii) Stool microscopy and hanging drop
- iv) Examination of CSF and other body fluids
- v) Blood sugar
- vi) Shake test on gastric aspirate
- vii) Gram stain, ZN stain

**VI. Patient Management Skills**

- i) Proficiency in management of pediatric emergencies, including emergency triaging
- ii) Drawing and executing patient management plan and long term care
- iii) Documenting patient records on day to day basis and problem oriented medical record
- iv) Care of a normal and sick newborn, management of neonatal disorders hypothermia, sepsis, convulsions, jaundice, metabolic problems
- v) Identifying need for timely referral to appropriate departments/health facility and pre-transport stabilization of the sick child

**VII. Communication Skills; Attitudes; Professionalism**

- i) Communicating with parents/child about nature of illness and management plan prognostication, breaking bad news
- ii) Counseling parents on breast feeding, nutrition, immunization, disease prevention, promoting healthy life style
- iii) Genetic counseling
- iv) Communication and relationship with colleagues, nurses and paramedical workers
- v) Appropriate relation with pharmaceutical industry
- vi) Health economics
- vii) Professional and research ethics

**VIII. Interpretation of Investigations**

- i. Plan x-ray chest, abdomen, skeletal system
- ii. Contrast radiological studies: Barium swallow, barium meal, barium enema, MCU
- iii. Ultrasound skull and abdomen
- iv. Histopathological, biochemical and microbiological investigations
- v. CT Scan and MRI (skull, abdomen, chest)
- vi. Electrocardiogram, electroencephalogram
- vii. Arterial and venous blood gases
- viii. **Desirable:** Interpretation of radio-isotope studies, audiogram, neurophysiological studies, (BERA, VER, Electromyography [EMG], Nerve Conduction Velocity [NCV]), lung function tests

**IX. Academic Skills**

- i. Familiarity with basic research methodology, basic IT skills. Planning the protocol of the thesis, its execution and final report
- ii. Review of literature
- iii. Conducting clinical sessions for undergraduates medical students
- iv. Desirable: writing and presenting a paper. Teaching sessions for nurses and medical workers

**IV. SYLLABUS****Course contents:  
Guidelines**

During the training period, effort must be made that adequate time is spent in discussing child health problems of public health importance in the country or particular region.

**Basic Sciences**

- Principles of inheritance, chromosomal disorders, single gene disorders, multifactorial / polygenic disorders, genetic diagnosis and prenatal diagnosis, pedigree drawing.
- Embryogenesis of different organ systems especially heart, genitourinary system, gastro-intestinal tract. Applied anatomy and functions of different organ systems.

- Physiology of micturition and defecation; placental physiology; fetal and neonatal circulation; regulation of temperature, blood pressure, acid base balance, fluid electrolyte balance and calcium metabolism.
- Vitamins and their functions.
- Hematopoiesis, hemostasis, bilirubin metabolism.
- Growth and development at different ages, growth charts; puberty and its regulation.
- Nutrition: requirements and sources of various nutrients.
- Pharmacokinetics of common drugs, microbial agents and their epidemiology.
- Basic immunology, biostatistics, clinical epidemiology, ethical and medico-legal issues.
- Teaching methodology and managerial skills.

**Understanding the definition, epidemiology, aetiopathogenesis, presentation, complications, differential diagnosis and treatment of the following, but not limited to:**

#### **Growth and development**

- Principles of growth and development
- Normal growth and development
- Failure to thrive and short stature
- normal growth and development
- sexual maturation and its disturbances
- Autism (as mentioned in objective 24)

#### **Neonatology**

- Perinatal care
- Care in the labor room and resuscitation
- Prematurity
- Common transient phenomena
- Infections
- jaundice
- neurologic disorders
- renal disorders
- thermoregulation and its disorders
- low birth weight
- newborn feeding
- respiratory distress
- apnea
- anemia and bleeding disorders
- gastrointestinal disorders
- malformations
- understanding of perinatal medicine

#### **Nutrition**

- maternal nutritional disorders; impact on fetal outcome
- infant feeding including complementary feeding
- protein energy malnutrition
- adolescent nutrition
- nutritional management of systemic illness (GI, hepatic, renal illness)
- nutrition for the low birth weight
- breast feeding
- vitamin and mineral deficiencies
- obesity
- parenteral and enteral nutrition

**Cardiovascular**

- congenital heart diseases(cyanotic and acyanotic)
- infective endocarditis
- disease of myocardium(cardiomyopathy, myocarditis)
- hyperlipidemia in children
- rheumatic fever and rheumatic heart disease
- arrhythmia
- diseases of pericardium
- systemic hypertension

**Respiratory**

- congenital and acquired disorders of nose tonsils and adenoids
- congenital anomalies of lower respiratory tract
- foreign body in larynx trachea and bronchus
- subglottic stenosis (acute, chronic)
- bronchial asthma
- acute pneumonia, bronchiolitis
- recurrent, interstitial pneumonia
- atelectasis
- pleural effusion
- infections of upper respiratory tract
- obstructive sleep apnea
- acute upper airway obstruction
- trauma to larynx
- neoplasm of larynx and trachea
- bronchiolitis
- aspiration pneumonia, GER
- suppurative lung disease
- lung cysts, mediastinal mass

**Gastrointestinal and liver disease**

- disease of oral cavity esophagus
- peptic ulcer disease
- intestinal obstruction disorders
- malabsorption syndrome
- irritable bowel syndrome
- Hirschsprung disease
- Hepatitis
- chronic liver disease
- metabolic diseases of liver
- disorders of deglutition **and congenital pyloric stenosis**
- acute and chronic pancreatic
- acute and chronic diarrhea
- inflammatory bowel disease
- anorectal malformations
- hepatic failure
- Budd-Chiari syndrome
- cirrhosis and portal hypertension

**Nephrologic and Urologic disorders**

- acute and chronic glomerulonephritis
- hemolytic uremic syndrome
- VUR and renal scarring
- renal tubular disorders dysfunction
- congenital and hereditary renal disorders
- posterior urethral valves
- undescended testis, hernia, hydrocoele
- xanthema syndrome
- urinary tract infection
- involvement in systemic diseases
- neurogenic bladder, voiding
- renal and bladder stones
- hydronephrosis
- Wilms tumor



**Neurologic disorders**

- seizure and non-seizure paroxysmal events
- meningitis, encephalitis
- febrile encephalopathies
- neurocysticercosis and other neuroinfestations
- SSPE
- neurometabolic disorders
- neuromuscular disorders
- learning disabilities
- acute flaccid paralysis and AFP surveillance
- movement disorders
- epilepsy, epileptic syndromes
- brain abscess
- Guillain-Barre syndrome
- HIV encephalopathy
- cerebral palsy
- neurodegenerative disorders
- mental retardation
- muscular dystrophies
- malformations
- Tumors

**Hematology and Oncology**

- deficiency anemias
- aplastic anemia
- Thrombocytopenia
- blood component therapy
- bone marrow transplant/stem cell transplant
- myelodysplastic syndrome
- neuroblastoma
- hemolytic anemias
- pancytopenia
- disorders of hemostasis
- transfusion related infections
- acute and chronic leukemia
- Lymphoma
- hypercoagulable states

**Endocrinology**

- hypopituitarism/hyperpituitarism
- pubertal disorders
- adrenal insufficiency
- adrenogenital syndromes
- hypoglycemia
- gonadal dysfunction and intersexuality
- diabetes insipidus
- hypo – and hyper-thyroidism
- Cushing's syndrome
- diabetes mellitus
- short stature
- obesity

**Infections**

- bacterial (including tuberculosis)
- fungal
- rickettsial
- protozoal and parasitic
- control of epidemics and infection prevention
- viral (including HIV)
- parasitic
- mycoplasma
- nosocomial infections
- safe disposal of infective material

**Emergency and Critical Care**

- emergency care of shock
- respiratory failure
- status epilepticus
- fluid and electrolyte disturbances
- poisoning
- scorpion and snake bites
- cardio-respiratory arrest
- acute renal failure
- acute severe asthma
- acid-base disturbances
- accidents
-



**Immunology and Rheumatology**

- arthritis (acute and chronic)
- immunodeficiency syndromes
- vasculitides
- systemic lupus erythematosus

**ENT**

- acute and chronic otitis media
- post-diphtheritic palatal palsy
- allergic rhinitis/sinusitis
- hearing loss
- acute/chronic tonsillitis/adenoids
- foreign body

**Skin Diseases**

- exanthematous illnesses
- pigment disorders
- infections
- atopic, seborrheic dermatitis
- alopecia
- vascular lesions
- vesicobullous disorders
- Steven-Johnson syndrome
- drug rash
- ichthyosis

**Eye problems**

- refraction and accommodation
- cataract
- strabismus
- disorders of retina, including tumors
- partial/total loss of vision
- night blindness
- conjunctival and corneal disorders

**Behavioral and Developmental disorders**

- rumination, pica
- sleep disorders
- breath holding spells
- mood disorders
- attention deficit hyperactivity disorders
- enuresis, encopresis
- habit disorders
- anxiety disorders
- temper tantrums
- autism (as mentioned in objective 24)

**Social/Community Paediatrics**

- national health programs related to child health
- Vaccines: constituents, efficacy, storage, contraindications and adverse reactions
- rationale and methodology of pulse polio immunization
- child labor, abuse, neglect
- disability and rehabilitation
- National policy of child health and population
- IMNCI
- adoption
- rights of the child
- juvenile delinquency
- Investigation of an epidemic
- Principles of prevention, control of infections (food, water, soil, vector borne)

**Orthopaedics**

- major congenital orthopedic deformities
- common bone tumors
- bone and joint infections

**Approach to clinical problems****Growth and development**

- precocious and delayed puberty
- impaired learning
- developmental delay

**Neonatology**

- low birth weight newborn
- sick newborn

**Nutrition**

- lactation management and complementary feeding
- failure to thrive
- protein energy malnutrition (underweight, wasting, stunting) and micronutrient deficiencies

**Cardiovascular**

- Murmur
- congestive heart failure
- arrhythmia
- cyanosis
- systemic hypertension
- shock

**GIT and Liver**

- Acute diarrhea
- abdominal pain and distension
- vomiting
- gastrointestinal bleeding
- hepatosplenomegaly
- persistent and chronic diarrhea
- ascites
- constipation
- jaundice
- hepatic failure and encephalopathy

**Respiratory**

- Cough/chronic cough
- wheezy child
- hemoptysis
- respiratory distress

**Infections**

- acute onset pyrexia
- recurrent infections
- nosocomial infections
- prolonged pyrexia with and without localizing signs
- fever with xanthema

**Renal**

- Hematuria/dysuria
- voiding dysfunctions
- hypertension
- bladder/bowel incontinence
- renal failure (acute and chronic)

**Hematology and Oncology**

- anemia
- bleeding

**Neurology**

- limping child
- paraplegia, quadriplegia
- macrocephaly and microcephaly
- acute flaccid paralysis
- convulsions
- cerebral palsy
- floppy infant
- headache

**Endocrine**

- thyroid swelling
- obesity
- ambiguous genitalia
- short stature

**Miscellaneous**

- skin rash
- epistaxis
- arthralgia, arthritis
- lymphadenopathy
- proptosis
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**V. TEACHING AND LEARNING METHODS****Postgraduate teaching programme****General principles**

Acquisition of practical competencies being the keystone of PG medical education, PG training should be skills oriented. Learning in PG program should be essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort.

**Teaching methodology**

This should include regular bedside case presentations and demonstrations, didactic lectures, seminars, journal clubs, clinical meetings, and combined conferences with allied departments. The post graduate student should be given the responsibility of managing and caring for patients in a gradual manner under supervision. Department should encourage e-learning activities.

**Formal teaching sessions**

In addition to bedside teaching rounds, at least 5-hr of formal teaching per week are necessary. The departments may select a mix of the following sessions:

- |  |                  |
|--|------------------|
| • Journal club   | Once a week      |
| • Seminar  | Once a fortnight |
| • Case discussions   | once a month     |
| • Interdepartmental case or seminar<br>[Cardiology, Pediatric Surgery]   | Once a month     |
| • Attend accredited scientific meetings (CME, symposia, and conferences).  |                  |
| • Additional sessions on resuscitation, basic sciences, biostatistics, research methodology, teaching methodology, hospital waste management, health |                  |

economics, medical ethics and legal issues related to pediatric practice are suggested.

- There should be a training program on Research methodology for existing faculty to build capacity to guide research.
- The postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
- A postgraduate student of a postgraduate degree course in broad specialities/super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.
- **Log book:** During the training period, the post graduate student should maintain a Log Book indicating the duration of the postings/work done in Pediatric Wards, OPDs and Casualty. This should indicate the procedures assisted and performed, and the teaching sessions attended. The purpose of the Log Book is to:
  - a) Help maintain a record of the work done during training,
  - b) Enable Consultants to have direct information about the work; intervene if necessary,
  - c) Use it to assess the experience gained periodically.

The log book shall be used to aid the internal evaluation of the student. The Log books shall be checked and assessed periodically by the faculty members imparting the training.

### **Rotations**

The postgraduate student should rotate through all the clinical units in the department. In addition, following special rotations should be undertaken:

#### ***Mandatory***

Neonatology, perinatology  
Intensive care, emergency

#### ***Desirable***

Posting in Out Patient Services of the following specialties is recommended Skin  
Pediatric Surgery

Physical Medicine and Rehabilitation  
Community

**Note:** Additionally, the PG students may be sent to allied specialties (Cardiology, Neurology, nephrology *etc.*) depending on facilities available. It should be ensured that the training conforms to the curriculum.

- **Thesis Objectives**

By carrying out a research project and presenting his work in the form of thesis, the student shall be able to:

- identify a relevant research question

- conduct a critical review of literature
- formulate a hypothesis
- determine the most suitable study design
- state the objectives of the study
- prepare a study protocol
- undertake a study according to the protocol
- analyze and interpret research data, and draw conclusions
- write a research paper

### **Guidelines**

While selecting the topic, following should be kept in mind:

- the scope of study is limited to enable its conduct within the resources and time available
- the study must be ethically appropriate
- the emphasis should be on the process of research rather than the results
- the protocol, interim progress and final presentation is made formally to the department
- only one student per teacher/thesis guide

There should be periodic department review of the thesis work, as per following schedule:

End of 6 months	Submission of protocol
During 2nd yr	Mid-term presentation
6 months prior to examination	Final presentation; submission

**During the training programme, patient safety is of paramount importance; therefore, skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently. For this purpose, provision of skills laboratories in medical colleges is mandatory.**

## ***VI. ASSESSMENT***

**FORMATIVE ASSESSMENT, ie., assessment to improve learning**

**Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self directed learning and ability to practice in the system.**

### **General Principles**

Internal Assessment should be frequent, cover all domains of learning and used to provide feedback to improve learning; it should also cover professionalism and communication skills. The Internal Assessment should be conducted in theory and practical/clinical examination.

**Quarterly assessment during the MD training should be based on:**

#### **1. Journal based / recent advances learning**

2. Patient based /Laboratory or Skill based learning
3. Self directed learning and teaching
4. Departmental and interdepartmental learning activity
5. External and Outreach Activities / CMEs

The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure I).

### **SUMMATIVE ASSESSMENT, i.e., assessment at the end of training**

The summative examination would be carried out as per the Rules given in POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.

The postgraduate examination shall be in three parts:

#### **1. Thesis**

Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A post graduate student shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

#### **2. Theory examination**

The examinations shall be organized on the basis of 'Grading' or 'Marking system' to evaluate and to certify post graduate student's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for M.D./ MS shall be held at the end of 3rd academic year. An academic term shall mean six month's training period.

There shall be four theory papers. Each paper should have 10 short essay questions (SEQ).

**Paper I:** Basic sciences as applied to Paediatrics

**Paper II:** Neonatology and community Paediatrics

**Paper III:** General Paediatrics including advances in Paediatrics relating to Cluster I specialties

**Paper IV:** Paediatric Medicine including advances in Paediatrics relating to Cluster II specialties

Cluster I: Nutrition, Growth and Development, Immunization, Infectious disease, Genetics, Immunology, Rheumatology, Psychiatry and Behavioral Sciences, Skin, Eye, ENT, Adolescent Health, Critical Care, Accidents and Poisoning

Cluster II: Neurology and Disabilities, Nephrology, Hematology and Oncology, Endocrinology, Gastroenterology and Hematology, Respiratory and Cardiovascular disorders

### 3. Practical/clinical and Oral/viva voce examination Practical examination

Case I  
Case II (Newborn)  
Case III  
OSCE may be used.

**Oral/Viva voce examination** on defined areas by each examiner separately. Oral examination shall be comprehensive enough to test the post graduate student's overall knowledge of the subject.

### Orientation sessions for PG students joining MD in Paediatrics

**This could be spread over 4-5 sessions once or twice a week depending on departmental routine and feasibility.**

#### For all PG students

Orientation to the Hospital: Various Departments and facilities available

- Communication skills: Patients and colleagues
- Literature search
- Basic research methodology
- Protocol writing and thesis

#### Pediatric PGs

Introduction to Residency in Paediatrics

- Universal precautions and appropriate disposal of hospital waste
- Management of shock
- Congestive cardiac failure
- Normal fluid and electrolyte requirement and their disorders
- Interpretation and management of disorders of acid-base balance
- Evaluation of a sick newborn
- Management of seizures, hypothermia and hypoglycemia in the newborn
- Management of seizures and status epilepticus
- Management of comatose patients
- Hospital management of severe PEM
- Acute kidney injury
- Fulminant hepatic failure
- Management of respiratory distress
- Management of acute diarrhea
- Approach to a bleeding child and its management

Rational antibiotic therapy



## **VII. MANDATORY COMPLIANCE**

- 1 The Model Weekly Time Table for Teaching learning activities is enclosed as : **Annexure – I**
- 2 Mandatory compliance of a PG student in T.L. process and CIA during the three year of study are given in : **Annexure – II**
- 3 The units for Quarterly assessment for CIA is given in : **Annexure – III**
- 4 Post Graduate student Quarterly Appraisal form for CIA is enclosed as : **Annexure – IV**
- 5 Mandatory Requirements to be eligible to appear for the University Summative Evaluation Examination is given in : **Annexure – V**
- 6 The Proforma of the Certificate on Attendance, Training Completion, Publication and Presentation Research / Poster / oral submission of Dissertation and present of all theory practical fee to be duly filled in and duly signed by PG Guide HOD, Finance Officer, Dean of faculty an HOI to be submitted to university COE before the issue of Hall Ticket for final exam is given us : **Annexure – VI**
- 7 The model QP pattern of paper I/II/III/IV, each of 100 marks and of 3 hours duration is enclosed as : **Annexure – VII**
- 8 The model Blue print for setting of Question papers and proper verbs/ phrases to be used in QP setting is given in : **Annexure – VIII**
- 9 The model marks list for practical and Vivavoce for PG medical MD/MS/ examination is enclosed as. : **Annexure – IX**

## **VIII. RECOMMENDED READING:**

### **Books (latest edition)**

1. Nelson's Textbook of Pediatrics, Kliegman et al (Editors)
2. Manual of Neonatal care, Cloherty
3. Nada's Pediatric Cardiology, Kaene
4. PG Textbook of Pediatrics, IAP P Gupta et al (Editors)
5. Clinical Methods in Pediatrics, P Gupta
6. Care of the newborn, Meharban Singh

### **Journals**

03-05 international Journals and 02 national (all indexed) journals

**Annexure - I****P.G. Teaching Time Table – Model**

Clinical postings (OPD – IPD Duties Ward Rounds, Casualty posting, ICU posting, posting to support Departments like Radiology, Anesthesia CCL , Pathology, FMT, Postings to field work and PHCs Camps and other postings as per provisions of MCI, are mandatory on all week Day as per posting.

<b>Day of the week</b>	<b>Time 03 to 5 PM</b>
Monday	Journal Club
Tuesday	Case presentation / Micro Clinic- Patient based Training
Wednesday	Seminar / GD / Panel Discussion
Thursday	Lecture by Faculty on select Topics
Friday	Clinical Meet / CPC / CME
Saturday	Guest Lecture by Experts / Skill Lab or Simulation Lab
Sunday (Select ones)	Medical Camps / Blood Donation Camp / Other types of Camps

**Note**

1. The Dept may select suitable days for a particular task assigned. But all of 7 tasks per week are a must
2. All the PG Teachers, PG students must attend these PG TLE Activities.
3. Attendance for these activities shall be maintained at the Department and Institutions. Implementation of the MCI Regulations, Syllabus and Time Table is the responsibility of HOD / HOI.

**HOD****HOI****DEAN OF FACULTY****REGISTRAR**

## Annexure – II

**Mandatory Compliance of a PG student in Teaching – Learning  
Activities  
As per MCI Regulations Syllabus and Advisory**

Sr. No.	Activities to be carried at by a PG student	Number per I <sup>st</sup> year (Minimum)	Number Per II <sup>nd</sup> Year (Minimum)	Number per III <sup>rd</sup> year (Minimum)	Total Number (Minimum) For 3 years
1	Presentation of Journal Articles in Journal club	12	12	6	30
2	a Case Presentation / Clinic	4	8	8	20
	b Skill Lab & Simulation	4	4	4	12
3	a Presentation of Seminars	4	4	4	12
	b Leading a Group Discussion on a select Topic	4	4	4	12
	c Assignment submission	4	4	4	12
4	a Lectures / Tutorials to UG students /panel Discussion	4	4	4	12
	b Clinical meeting CMC/ CPC	12	12	12	36
	c BLS	1	--	--	1
	d ACLS	1	--	--	1
5	Medical Camps Health Checkup at Villages / Schools/ Blood Donation / etc.	6	6	6	18
6	a Orientation Programme	1	1	1	3
	b Research Methodology Workshop	1	--	--	1
	C Presentation of synopsis of the Thesis / Dissertation	1	--	--	1
	d Presentation of Mid Term work of Thesis / Dissertation	--	1	--	1
	e Presentation of final Draft of Dissertation / Thesis	--	--	1	1
	f Presentation of Research Article	--	0 or 1	0 or 1	1
	g Publication of an Article	--	0 or 1	0 or 1	1 or 2
7	LOG Book	1 (a)	1 (b)	1 (c)	1 a+b+c
8	CIA	4	4	4	12
9	Any other Activity Specified by Dept.				

- Note :- 1. The Department may conduct periodic preparatory tests in Theory / Practical/Clinicals and Vivavoce. Quiz and MCQ test may to be adopted
2. The 12<sup>th</sup> CIA may also include a preparation examination on the model of university examination as a training cum assessment

**HOD                      HOI                      DEAN OF FACULTY                      REGISTRAR**

**Annexure – III**

**Units of Quarterly Assessment of Every student (Internal)**  
**Formative Assessment – Quarterly Assessment (Total 12 CIAs)**  
 As per Annexure III.

**1. Journal Based / Recent Advances learning**

(Bases on Journal Clubs / Select Article Presentation , Review Article preparation and presentation)

**2. Patient Based and Laboratory Based and skill Based learning**

(Based on clinical Posting – OPD / IPD Ward Rounds/ casualty/ Case Examination/ presentation /Diagnosis / Interpretation /of Clinical Diagnostics/ Differential Diagnosis, Prognosis/ Morbidity/ Mortality/ Community Medicine/ Promotion/ prevention/ Control/ Prophylaxis/ Epidemiology/ Simulation Studies/ Skill Based Studies and so on)

**3. Self Directed Learning and Teaching**

(Seminars Panel Discussion Group Discussion, Assignments, Case studies, Preparation of Charts and Models etc. , Role Play, Debates, Moot courts, etc)

**4. Departmental and Inter Departmental Learning Activities.**

(Participation in UG/PG teaching / Horizontal and Vertical Integrated Lectures, Clinical meeting / CPC / CME)

**5. External and out research Activities**

(Participation in Camps, Posting and Visit to PHCs, Satellite clinics, Mobile Clinics, Health checkup Camps, Blood Donation Camps, Immunization Camps school Visits. Crisis / Disaster Management, Celebration of Commemorative Days and soon)

**6. Thesis / Dissertation Research Work related to selected Topic****7. a) Log Book maintenance/ Portfolio management - To maintain LOG Book or portfolio management of all the TL Activities**

b) Presentation / Publications of Research Article

No.	Particulars	Minimum for 3 months
1	Journal based Recent Advance Learning- Presentation of select Article in Journal clubs	3
2	a Patient Based laboratory or Skill based learning- Case presentation / Clinic	1 (1 <sup>st</sup> year) 2 (2 <sup>nd</sup> & 3 <sup>rd</sup> year)
	b Skill Lab / Simulation Lab Work	1
3	a Self Directed Learning & Teaching- Presentation of Seminar	1
	b Leading a Group Discussion on select Topic in GD	1
	c Assignment Submission	1
4	a Lecture / Tutorials / Panel Discussions with UG students	1
	b Clinical Meetings (CME's) CPC/Dept. meeting	3
5	Medical Camps	1
6	Dissertation Work Research methodology workshop	Yes / No
7	Log Book & Attendance	Yes / No
8	Any other Activity Prescribed (T/P/Viva)	Yes / No

**HOD****HOI****DEAN OF FACULTY****REGISTRAR**

## Annexure IV

**Postgraduate Students Appraisal Form  
Pre / Para /Clinical Disciplines – MD/MS Degree**

Name of the Department/Unit : Roll No.:  
 Name of the PG Student :  
 Period of Training : FROM.....TO.....  
 Quarterly Assessment (1/2/3/4/5/6/7/8/9/10/11/12)

Sr. No.	PARTICULARS	Not Satisfactory			Satisfactory			More Than Satisfactory			Remarks
		1	2	3	4	5	6	7	8	9	
1.	Journal based / Recent advances learning										
2.	Patient based/Laboratory or Skill based learning										
3.	Self-directed learning and teaching										
4.	Departmental and interdepartmental learning activity										
5.	External and Outreach Activities / CMEs										
6.	Thesis / Research work										
7.	Log Book Maintenance										
8.	Performance in Theory/Practical/Viva voce Tests										
	<b>Overall Assessment</b>										

- Publications of Research Article Yes/No
- Presentation of Research Article
- The student has complied with mandatory requirement for quarterly assessment & presentation of Research Profile Yes/No

Remarks\* \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**\*REMARKS:** Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE

SIGNATURE OF HOD

\_\_\_\_\_  
 HEAD OF THE INSTITUTION

**Annexure - V**

**Mandatory Requirements to be eligible to appear for  
university Summative Examination / Evaluation – As per MCI Regulations.  
(As per MCI Medical Education Regulation 2000,  
amended from time to time till date)**

1. Minimum percent of Attendance as per MCI Regulations.
2. Satisfactory performance in 12 CIA conducted and certified by HOD HOI and PG Guide.
3. Certificate from F.O. stating that all the fees due from the student are paid and credited to PIMS-DU A/c
4. Presentation of a Research Article / Poster in a national / state level conference /Seminar / Workshop.
5. Publication of a Research Articles as first – author in (indexed in scopus or web of science or as fixed by MCI Regulations and visited by UGC (ARE list).
6. a) Thesis – Finalisation of Topic and Title – submission of Synopsis following IEC clearance within 6 months of Adm. Topics  
 b) After II year of a Admission or 3 terms Midterm Review .  
 c) Thesis to be submitted at least 6 months before final examination.  
 d)Thesis to be examined by 3 Examiners. (1 Internal and 2 External PG Examiners)  
 e) Its Acceptance is a must for appearing for University T & P Exam

Note :- HOD & HOI shall ensure provisions of 1,2,3,4,5,6 a,b,c. The COE shall ensure provisions of 1,2,3,4,5,6 a,b,c ,d,e & e as per MCI Regulations

**HEAD OF DEPARTMENT****HEAD OF INSTITUTION****DEAN OF FACULTY REGISTRAR**

**Annexure - VI**

Ref. No. \_\_\_\_\_

Date: \_\_\_\_\_

**Compliance to MCI's Regulations Governing Post Graduate Programme in Medical Faculty**

Department of \_\_\_\_\_ PG Programme: MD/ MS in \_\_\_\_\_

Name of Candidate: \_\_\_\_\_, JR-III

PRN No. \_\_\_\_\_ Date of Admission \_\_\_\_\_

**Certification on**  
**Attendance and Training Completion**  
**Publication & Presentation of Research Articles (Poster/ Oral)**  
**Submission of Dissertation & Payment of All types of prescribed fees**

It is hereby certified that the said candidate JR-III in the Dept. of \_\_\_\_\_ at Rural Medical College has completed 6 academic terms/ 3 academic years and fulfilled the prevailing provisions of the MCI Regulations governing MD/MS PG programmes and the rules of PMT, PIMS-DU. Details are as under.

1.	<b>Attendance Fulfillment *</b>	<b>% Attendance</b>	<b>Remark – Eligibility</b>
	I Academic Term		
	II Academic Term		
	III Academic Term		
	IV Academic Term		
	V Academic Term		
	VI Academic Term		
	Overall fulfillment		Fulfilled / Not Fulfilled
	* Fulfillment of a minimum of 80% of attendance/ academic term, for 6 terms/ 3 years including imparted training, assignment, fulltime responsibilities and participation in all facets of PG education process including periodic assessment and so on as per MCI Regulations.		
2.	Log Book maintained as per MCI Regulations & Fulfilled the graded responsibilities in the management and treatment of patients entrusted for their care Verified by Dr. _____ Certified by Dr. _____		Yes/ No
3.	Successful participation in teaching and training programmes organized by the department for UG and Interns		
4.	Presented and Participated in Seminars, Journal Clubs, Case Presentations, Group Discussions, Clinical Meetings, CME Ward Round, CPC, Practicals organized by the Department as per the timetable.		
5.	Participated in training sessions in diagnostics, medical/ surgical training, in basic/ applied medical and allied clinical specialties and Medical Camps as per the timetable		
6.	The Performance of the PG students in 12 CIAs (Conducted quarterly) are satisfactory as per appraisal proforma as per MCI Regulations.		



7.	Presented one research poster and one research article (oral) in a Seminar/ Symposia/ Workshop/ Conference (National/State). The certificates for presentation of paper/ poster are enclosed.	
8.	Published one research article in a scientific journal as per norms. The copy of the published research article is enclosed.	
9.	Submitted a Dissertation entitled _____ _____ _____ under the guidance of Dr. _____	
10.	Paid all the fees (tution fees and other fees) vide receipt No. _____ for all 3 years.	
11.	Produced NOC from all the sections of PMT PIMS-DU concerned about "NO DUES"	
12.	Paid Examination fees of Rs. _____ vide Challan/ Receipt No. _____ dated _____ issued by Finance Officer PIMS-DU.	

It is hereby declared that the all the duly certified and verified documents, related to the aspects mentioned above, are in the custody of department concerned and student section of Rural Medical College with due authentication and signature of concerned HOD/ Dean/ Principal/ Dean of Faculty) and will be made available for any MCI inspection as per norms and Regulations.

Accordingly He/She is eligible/ not eligible for appearing in final year PG examination as per the MCI Regulations governing PG Programmes.

**PG Guide**

Dr. \_\_\_\_\_

Seal

**Head of the Department**

Dr. \_\_\_\_\_

Verified and certified that all types of prescribed fees and fines PMT, PIMS-DU, College, Hostel & Others mentioned at sl.no. 10, 11, 12 are paid by the student and credited to the accounts of PMT & PIMS-DU.

Seal

**Finance Officer**  
PIMS-DU

Verified the relevant documents and certify that the candidate is eligible to appear for final year PG Examination as per MCI Regulations and rules of PIMS-DU.

**Dean**

Faculty of Medicine

Seal

**Dean**

Rural Medical College

Ref \_\_\_\_\_

**For Officer Use Only**

Date: \_\_\_\_\_

The HOD, HOI and Dean have certified that the

- a. Candidate is eligible to appear for PG Theory and Practical/ Clinical Examination as per MCI Regulations. F.O. has certified that all the fees has been credited to PMT, PIMS-DU Accounts.
- b. The Dissertation submitted has been evaluated by external examiners and then have approved the same for acceptance as per MCI Regulations.
- c. Hence the candidate be permitted to appear for the PG examinations (Theory & Practical/ Clinical) scheduled in the month of \_\_\_\_\_ year \_\_\_\_\_.

**Controller of Examinations**



**Submitted for perusal and approval**

**Vice Chancellor**

## Annexure – VII

**PRAVARA INSTITUTE OF MEDICAL SCIENCES  
(Deemed to be University)**

**Post Graduate Degree in Paediatrics (MD)**

**Examination \_\_\_\_\_ 20\_\_**

**Paper – I/ II/ III/ IV**

**Paper Title** : \_\_\_\_\_

**Date:** / /20

**Marks** : 100

**Time:**

**Instructions to candidate:**

- 1) All questions are compulsory
- 2) Answer written in illegible handwriting will not be assessed.
- 3) Write answers on both sides of answer paper.
- 4) Neat diagrams must be drawn wherever necessary.
- 5) Write prescription where indicated, and in the use of drugs their doses should be given.

---

<b>Que. 1</b>	Marks 10
<b>Que. 2</b>	Marks 10
<b>Que. 3</b>	Marks 10
<b>Que. 4</b>	Marks 10
<b>Que. 5</b>	Marks 10
<b>Que. 6</b>	Marks 10
<b>Que. 7</b>	Marks 10
<b>Que. 8</b>	Marks 10
<b>Que. 9</b>	Marks 10
<b>Que. 10</b>	Marks 10

## Annexure – VIII

**Table 1: Showing BLUEPRINTING for theory paper setting**

The number of Questions & their distribution of marks shall be as per MCI model Question Paper [only Illustration]

**LAQ/ SAQ and their Marks**

LEVEL	Q	Q	Q	Q	Q	Q	Q	Total
	Mark	Mark	Mark	Mark	Mark	Mark	Mark	
Knowledge								
Comprehension								
Application								
Analysis								
synthesis								
Evaluation								
<b>TOTAL</b>								<b>1000</b>

The Questions (Whether LAQ or SAQ) Must aim at assessing all the 6 domains

**Note: This is only an illustration. Actual Number of Questions and their distribution of marks shall be as per model Question Paper of MCI. (i.e. regarding the number of LAQ / SAQ and their marks distribution)**

**Table 2: Showing appropriate verbs suitable to level of knowledge for theory paper setting**

Level	Suggested Verbs
<b>Knowledge</b>	Define, Describe, Draw, Find, Enumerate, Cite, Name, Identify, List, label, Match, Sequence, Write, State
<b>Comprehension</b>	Discuss, Conclude, Articulate, Associate, Estimate, Rearrange, Demonstrate understanding, Explain, Generalize, Identify, Illustrate, Interpret, Review, Summarize
<b>Application</b>	Apply, Choose, Compute, Modify, Solve, Prepare, Produce, Select, Show, Transfer, Use
<b>Analysis</b>	Analyze, Characterize, Classify, Compare, Contrast, Debate, Diagram, Differentiate, Distinguish, Relate, Categorize
<b>Synthesis</b>	Compose, Construct, Create, Verify, Determine, Design, Develop, Integrate, Organize, Plan, Produce, Propose, rewrite
<b>Evaluation</b>	Appraise, Assess, Conclude, Critic, Decide, Evaluate, judge, Justify, Predict, Prioritize, Prove, Rank

**Table 3: Showing examples of theory questions**

Sr. No.	Type	Explanation	Examples
1	Long essay question	<ul style="list-style-type: none"> <li>✓ Question should pose clinical problem that will require student to apply knowledge along with integration with disciplines</li> <li>✓ Avoid one liner as question</li> <li>✓ Question stem should be structured</li> <li>✓ Marking distribution should be provided</li> <li>✓ Use of proper verbs from higher domains as given in this document</li> <li>✓ Avoid recall based questions</li> </ul>	
2	Short notes	<ul style="list-style-type: none"> <li>✓ Sample a wider content</li> <li>✓ Questions should be task oriented</li> <li>✓ Reasoning questions provide opportunity for testing integration, clinical reasoning and analytical ability of the student</li> </ul>	

**Table 4: Showing Objective structured clinical examination [OSCE] typical station**

Sr. No.	Type of station	Time allotted	Example	Evaluation
1	Procedure			
2	Response			

## Annexure – IX

**University Examination  
Model Marks Sheet  
For Practical / Clinical Examination and Viva voce**

Duration \_\_\_\_\_

Max Mark – 400

## Illustration only

No.	Type of Examination	Marks Allotted	Scored
1	Long Cases		
2	a) Short cases (No. of small cases and Marks for each cases) 1/2/3/4----- b) Ward Round c) Any other		
3	Spotter / OSPE/ Oral / Vivavoce Sub Divisions i)                    iv) ii)                   v) iii)                  vi)		
	<b>Ground Total</b>	<b>400</b>	

PG Examiners		Name	Signature
1	Chairman Name		
2	Internal Examiner		
3	External Examiner		
4	External Examiner		

Date:-

Place :-

- Note:- 1) The Number of cases, type of cases and type of practical and orals / vivavoce and their distributions of marks shall be as per MCI Regulations / Syllabi.
- 2) The HOD / Chairman / Co Chairman BOS shall ensure at this proforma is prepared as per the MCI Regulations / Syllabi.

## Annexure I

**Postgraduate Students Appraisal Form  
Pre / Para /Clinical Disciplines**

Name of the Department/Unit :

Name of the PG Student:

Period of Training: FROM.....TO.....

Sr. No.	PARTICULARS	Not Satisfactory			Satisfactory			More Than Satisfactory			Remarks
		1	2	3	4	5	6	7	8	9	
1.	Journal based / recent advances learning										
2.	Patient based /Laboratory or Skill based learning										
3.	Self directed learning and teaching										
4.	Departmental and interdepartmental learning activity										
5.	External and Outreach Activities / CMEs										
6.	Thesis / Research work										
7.	Log Book Maintenance										

Publications Yes/ No

Remarks\* \_\_\_\_\_

\*REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE

SIGNATURE OF CONSULTANT

SIGNATURE OF HOD



*h. k. k. k.*  
Registrar  
Pravara Institute of Medical Sciences  
(Deemed to be University)  
Loni - 413736, Tal. Rahata  
Dist. Ahmednagar (M.S. India)